W0 3005-QES STL

Quanterra
Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

0053028

CASE NARRATIVE
Revised 3/8/00

Original received 2/11/2000
Dayes 3/16/2000

Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

February 9, 2000

Attention: Joan Kessner

Quote Number	:	33811
SDG	:	W03005
Number of Samples	:	**eighteen (18)**
Sample Matrix	:	Solid
Data Deliverable	:	Summary
Date SDG Closed	:	January 12, 2000

II. Introduction

Between January 5, 2000 and January 6, 2000, **eighteen (18)** "solid" samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The samples were received at the St. Louis lab within the temperature criteria. See the attached Sample Summary for a listing of Client Ids and their associated Lab numbers.

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested: ICP Metals - 6010 Super Trace - Lead
Mercury - 7471 - CV

Deviation from Request: None

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike

MS- Matrix Spike.
MSD- Matrix Spike Duplicate.

V. Comments

General: The term "Detection Limit" used in the analytical data reports refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

Please refer to the attached cross-reference table for the standard preparation methods used at Quanterra, St. Louis.

Metals: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

The initial analysis of the Mercury samples had LCS recoveries outside QC limits at 159% and 165%. The samples were re-digested and re-analyzed. The LCS recoveries met criteria in the re-analysis. The re-analysis data is reported in the package.

The Mercury prep and analysis was done outside of holding time. The prep and analysis was done on 2/4/00. Holding times were expired from 1 to 4 days.

I certify that this Summary is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

3/8/00

Marti Ward
St. Louis Project Manager

000003
DSA

Quanterra

Clouseau

Nonconformance Memo

NCM #: **F00041**
NCM Initiated By: Ed Kao
Date Opened: 02/01/00
Date Closed: N/A

Classification: **Deficiency**
Status: **PMREVIEW**
Production Area: Metals
Tests: 7471A
Lot #'s (Sample #'s): F0A060175 (1,10,11,2,3,4,5,6,7,8,9); F0A070135 (1,2,3,4,5,6,7); F0A110152 (6) W03005
QC Batch: 0026218

Nonconformance: QC data exceeded criteria
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Ed Kao	02/01/00	The LCS soil were outside of acceptance criteria (159% and 165%). However, the MS/MSDs were 116%/117% and 125%/123%. In addition, upon further investigation, we tested the same Lot# but different bottle (there were 4 bottles of LCS soil with the same Lot#) and the LCS soil passed. In conclusion, we attributed contamination to that specific bottle.

Corrective Action

Name	Date	Corrective Action
Ed Kao	02/01/00	The bottle that tested fine will be used and all other bottles are to be discontinued effectively.

Client Notification Summary

Client	Project Manager	Date Notified	Response Date	How Notified
BECHTEL HANFORD, INC.	Ward, Marti	02/01/00	02/01/00	in writing

Response: Process "as-is"

Response Details:

Approval History

Name	Date Approved:	Position
Ed Kao	02/01/00	Group Leader
Ward, Marti	02/01/00	Project Manager

Client required re-analysis

000004

Date Printed: 02/01/00

SAMPLE SUMMARY

F0A070135

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D76G1	001	B0XB67	01/06/00	08:58
D76GJ	002	B0XB68	01/06/00	09:11
D76GL	003	B0XB69	01/06/00	09:23
D76GP	004	B0XB70	01/06/00	09:36
D76GQ	005	B0XB71	01/06/00	09:36
D76GR	006	B0XB72	01/06/00	09:43
D76GT	007	B0XB73	01/06/00	10:12

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

SAMPLE SUMMARY

F0A060175

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D7557	001	B0XB60	01/05/00	08:41
D755C	002	B0XB61	01/05/00	08:48
D755D	003	B0XB62	01/05/00	09:00
D755H	004	B0XB63	01/05/00	09:11
D755L	005	B0XB64	01/05/00	09:22
D755W	006	B0XB65	01/05/00	09:37
D7560	007	B0XB66	01/05/00	09:47
D7563	008	B0XBH5	01/03/00	12:30
D7565	009	B0XBH6	01/03/00	12:41
D7567	010	B0XBH7	01/03/00	12:53
D756A	011	B0XBH8	01/03/00	12:53

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

METHODS SUMMARY

F0A060175

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

000007
Da

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A070135-001
PROJECT #: D&D WORK ORDER: D76G1
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/06/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/06/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60G REPORT DUE DATE: 1/27/00
STORAGE LOC: T7F PRIORITY: 18
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:58
MATRIX: SOLID RECEIVING TIME: 12:00
SAMPLE ID: B0XB67
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/07/00	0/00/00	7/04/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D76G1 Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/07/00	0/00/00	2/03/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D76G1 Protocol: A QC Program: STANDARD TEST SET				

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 1/07/00
Time: 15:26:35
User Id.: SEITHELK

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: D&D
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B00-013
AMOUNT REC"D: 60G
STORAGE LOC: T7F
LOT COMMENTS: Hanford Summary and FEAD EDD required
MATRIX: SOLID
SAMPLE ID: B0XB67
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 33811
LAB ID: F-0A070135-001-D
WORK ORDER: D76G1 MSD
RECEIVING DATE: 1/06/00
SAMPLING DATE: 1/06/00
ANALYTICAL DUE DATE: 1/24/00N
REPORT DUE DATE: 1/27/00
PRIORITY: 18
SAMPLING TIME: 8:58
RECEIVING TIME: 12:00
SDG# : W03005

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/07/00	0/00/00	7/04/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D76G1 Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/07/00	0/00/00	2/03/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D76G1 Protocol: A QC Program: STANDARD TEST SET				

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 1/07/00
Time: 15:26:35
User Id.: SEITHELK

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: D&D
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B00-013
AMOUNT REC"D: 60G
STORAGE LOC: T7F
LOT COMMENTS: Hanford Summary and FEAD EDD required
MATRIX: SOLID
SAMPLE ID: B0XB67
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 33811
LAB ID: F-0A070135-001-S
WORK ORDER: D76G1 MS
RECEIVING DATE: 1/06/00
SAMPLING DATE: 1/06/00
ANALYTICAL DUE DATE: 1/24/00N
REPORT DUE DATE: 1/27/00
PRIORITY: 18
SAMPLING TIME: 8:58
RECEIVING TIME: 12:00
SDG# : W03005

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/07/00	0/00/00	7/04/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D76G1 Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/07/00	0/00/00	2/03/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D76G1 Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A070135-002
PROJECT #: D&D WORK ORDER: D76GJ
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/06/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/06/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60G REPORT DUE DATE: 1/27/00
STORAGE LOC: T7F PRIORITY: 18
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:11
MATRIX: SOLID RECEIVING TIME: 12:00
SAMPLE ID: B0XB68
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/07/00	0/00/00	7/04/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D76GJ Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/07/00	0/00/00	2/03/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D76GJ Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A070135-003
PROJECT #: D&D WORK ORDER: D76GL
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/06/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/06/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60G REPORT DUE DATE: 1/27/00
STORAGE LOC: T7F PRIORITY: 18
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:23
MATRIX: SOLID RECEIVING TIME: 12:00
SAMPLE ID: B0XB69
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/07/00	0/00/00	7/04/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D76GL Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/07/00	0/00/00	2/03/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D76GL Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A070135-004
PROJECT #: D&D WORK ORDER: D76GP
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/06/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/06/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60G REPORT DUE DATE: 1/27/00
STORAGE LOC: T7F PRIORITY: 18
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:36
MATRIX: SOLID RECEIVING TIME: 12:00
SAMPLE ID: B0XB70
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/07/00	0/00/00	7/04/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D76GP Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/07/00	0/00/00	2/03/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D76GP Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A070135-005
PROJECT #: D&D WORK ORDER: D76GQ
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/06/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/06/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60G REPORT DUE DATE: 1/27/00
STORAGE LOC: T7F PRIORITY: 18
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:36
MATRIX: SOLID RECEIVING TIME: 12:00
SAMPLE ID: B0XB71
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/07/00	0/00/00	7/04/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D76GQ Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/07/00	0/00/00	2/03/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D76GQ Protocol: A QC Program: STANDARD TEST SET				

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 1/07/00
Time: 15:26:35
User Id.: SEITHELK

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: D&D
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B00-013
AMOUNT REC"D: 60G
STORAGE LOC: T7F
LOT COMMENTS: Hanford Summary and FEAD EDD required
MATRIX: SOLID
SAMPLE ID: B0XB72
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 33811
LAB ID: F-0A070135-006
WORK ORDER: D76GR
RECEIVING DATE: 1/06/00
SAMPLING DATE: 1/06/00
ANALYTICAL DUE DATE: 1/24/00N
REPORT DUE DATE: 1/27/00
PRIORITY: 18
SAMPLING TIME: 9:43
RECEIVING TIME: 12:00
SDG# : W03005

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/07/00	0/00/00	7/04/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D76GR Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/07/00	0/00/00	2/03/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D76GR Protocol: A QC Program: STANDARD TEST SET				

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 1/07/00
Time: 15:26:35
User Id.: SEITHELK

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: D&D
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B00-013
AMOUNT REC"D: 60G
STORAGE LOC: T7F
LOT COMMENTS: Hanford Summary and FEAD EDD required
MATRIX: SOLID
SAMPLE ID: B0XB73
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 33811
LAB ID: F-0A070135-007
WORK ORDER: D76GT
RECEIVING DATE: 1/06/00
SAMPLING DATE: 1/06/00
ANALYTICAL DUE DATE: 1/24/00N
REPORT DUE DATE: 1/27/00
PRIORITY: 18
SAMPLING TIME: 10:12
RECEIVING TIME: 12:00
SDG# : W03005

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace) METALS, TOTAL - Soils MT6010_S PB (A-46-QM-01) D76GT Protocol: A QC Program: STANDARD TEST SET	06	1/07/00	0/00/00	7/04/00
Mercury (7471A, Cold Vapor) - Solids METALS, TOTAL (Method Exclusive) - Solids M7471_S HG (A-70-09-01) D76GT Protocol: A QC Program: STANDARD TEST SET	06	1/07/00	0/00/00	2/03/00

W-210.50

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B00-013-110	Page 1 of 1
Collector Fahlberg W03005	Company Contact J Adler	Telephone No. 373-4316	Project Coordinator TRENT, SJ	Price Code 9L / Data Turnaround 21 Days
Project Designation 105-F/DR Phase III Below-grade Areas Sampling and Analy	Sampling Location 105 F Solids Feed		SAF No. B00-013	Air Quality ☐
Ice Chest No. ERC-96-065	Field Logbook No. EL 1424	COA R105F2280C	Method of Shipment Hand Delivered	
Shipped To Quanterra Incorporated	Offsite Property No.		Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

SDG W03005

SAMPLE ANALYSIS

Due 1-27

J0A060216

Preservation	Cool 4C	None	None							
Type of Container	aG	aG	aG							
No. of Container(s)	1	1	1							
Volume	60mL	60mL	120mL							
Sample Analysis	7196_CR6: Hexavalent Chromium (1)	ICP Metals - 6010A (Supertrace) (Lead); Mercury - 7471 - (CV)	See item (1) in Special Instructions.							

Sample No.	Matrix *	Sample Date	Sample Time										
B0XB67	Other Solid	1-6-00	0858	X	X	X	D75L3						
B0XB68	Other Solid	1-6-00	0911	X	X	X	D75LC						
B0XB69	Other Solid	1-6-00	0923	X	X	X	D75LE						
B0XB70	Other Solid	1-6-00	0936	X	X	X	D75LH						
B0XB71	Other Solid	1-6-00	0936	X	X	X	D75LJ						

Handwritten in analysis columns: Retest 1-10 100%; 100%

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
R Fahlberg / R Fahlberg	1-6-00 1200	K. Achtenberg	1-6-00 1200
K. Achtenberg	1-6-00 1200	[signature]	1/7/00 1000

SPECIAL INSTRUCTIONS

(1) Gamma Spectroscopy (Cobalt-60); Gamma Spec - Add-on (Barium-133); Isotopic Plutonium; Strontium-89,90 -- Total Sr; Technetium-99; Americium-241; Nickel-63; Carbon-14

TIED TO ROD SCREEN BOXBF6

Matrix *
S=Soil
SE=Sediment
SO=Solid
S =Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

2100017

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-013-115	Page 1 of 1

Collector: Fahlberg W03605	Company Contact: J Adler	Telephone No.: 373-4316	Project Coordinator: TRENT, SJ	Price Code: 9L	Data Turnaround: 21 Days
Project Designation: 105-F/DR Phase III Below-grade Areas Sampling and Analy	Sampling Location: 105 F Solids Feed		SAF No.: B00-013	Air Quality ☐	
Ice Chest No.: ERC-96-065	Field Logbook No.: EL 1424	COA: R105F2280c	Method of Shipment: Hand Delivery		
Shipped To: Quanterra Incorporated	Offsite Property No.		Bill of Lading/Air Bill No.		

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C	None	None								
Type of Container	aG	aG	aG								
No. of Container(s)	1	1	1								
Volume	60mL	60mL	120mL								

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	7196_CR6: Hexavalent Chromium (1)	ICP Metals - 6010A (Supertrace) (Lead); Mercury - 7471 - (CV) 100%	See item (1) in Special Instructions.							
B0XB72	Other Solid	1-6-00	0949	X	X	X	D75LL						
B0XB73	Other Solid	1-6-00	1012	X	X	X	D75LM						

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
R. Fahlberg / R. Fahlberg	1200 1-6-00	R. Fahlberg	1200 1-6-00
R. Fahlberg	1600 1-6-00	[illegible]	1/7/00 1000

SPECIAL INSTRUCTIONS

(1) Gamma Spectroscopy (Cobalt-60); Gamma Spec - Add-on (Barium-133); Isotopic Plutonium; Strontium-89,90 -- Total Sr; Technetium-99; Americium-241; Nickel-63; Carbon-14

* TIED TO RAD SCREEN BOX BF6

Matrix *

S=Soil
SE=Sediment
SO=Solid
S=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

ERC Radiological Counting Facility Analysis Report

RCF Number RCF6959 **Sample Date & Time** 12/29/99 0952

Project ID: 105-F **SAF Number:** B00-013 **Date Analyzed** 12/30/99 9:08:

Sample ID: B0XBF6

Gamma Energy Analysis

Nuclide		Activity (pCi/g)		Error (pCi/g)	MDC (pCi/g)
K-40	<	1.7E+02			1.7E+02
Co-60	<	1.8E+01			1.8E+01
Cs-137	<	1.8E+01			1.8E+01
Eu-152	<	4.7E+01			4.7E+01
Eu-154	<	4.8E+01			4.8E+01
Eu-155	<	8.0E+01			8.0E+01
Th-232D	<	4.7E+01			4.7E+01
U-235	<	1.6E+02			1.6E+02
U-238	<	3.3E+03			3.3E+03
U-238D		9.4E+01	+/-	4.3E+01	4.9E+01
Am-241	<	4.7E+01			4.7E+01

Total GEA (pCi/g)	9.4E+01	+/-	4.3E+01

	Activity (pCi/g)		Error (pCi/g)	Alpha MDC (pCi/g)
Gross Alpha**	7.6E-01	+/-	6.0E-01	4.3E-01
Gross Beta	1.0E+01	+/-	1.2E+00	Beta MDC (pCi/g) 5.6E+00

Definitions:

All errors reported at 2 standard deviations.
N/R = no result or analysis not requested. <MDC = Less than detection limit.
All GEA results reported as "<" list the Minimum Detectable Concentration (MDC) value for that radionuclide.
Rounding error may result in the reported total GEA activity differing from the sum of the > MDC GEA values in the second significant digit.

For soils and natural samples, the following applies:

The analysis of U-238 is based on the activity of Pa-234m.
The analysis of Np-237 is based on the activity of Pa-233.
U-238dau is the activity of Pb-214 and Bi-214, short lived daughter products of U-238. Equilibrium between parent and daughter products probably does not exist in disturbed materials.
Th-232dau is the activity of Ac-228, Pb-212, and Tl-208, short lived daughter products of Th-232. Equilibrium between parent and daughter products may not exist in disturbed materials.
Other samples, not containing natural materials, may have inapplicable results for the Th, U, transuranics and daughter products. The results must then be balanced for the gross alpha analysis.
**The gross alpha results are not corrected for mass absorbtion
No peaks for this radionuclide were visible above background in the spectrum. The result was reported as less than MDC.

Analyst T. J. Smith 12/30/99

Report To D. St John Fax 372-9487

Report Printed: Thursday, December 30, 1999

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 6-00 1200 SG#: W03005

Work Order Number: J0A060216 SAF #: B00014 / B00013

Shipping Container ID: ERC96-065 Chain of Custody # B00-013-110 +115

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 4°C
5. Vermiculite/packing materials is Wet [ ] Dry [✓]
6. Number of samples in shipping container: 26
7. Sample holding times exceeded? Yes [ ] No [ ]

8. Samples have:
   - ✓ tape
   - ✓ custody seals
   - ____ hazard labels
   - ____ appropriate sample labels

9. Samples are:
   - ✓ in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: K. Hattendorf Date: 01-06-00

Telephoned To: _____ On _____ By _____

000020

Quanterra
Environmental Services

020588

Login No.: F0A070135
W13005

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Bechtel Hanford
Date: 1/7/00 Time: 1000
Project No:
Initiated by: Rithel
Shipper/No: HERBOERNE
RFA/COC Numbers: B00-013-110, B00-013-115

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature:
   - ☐ pH
   - ☐ other:
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain:
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing.
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain:
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Other (explain below):

☒ No variances were noted during sample receipt. Cooler Temperature Upon Receipt: 2°

Temperature Variance Does Not Affect the Following Analyses:

Notes:

Corrective Action:

☐ Client's Name: Informed verbally on: By:

☐ Client's Name: Informed in writing on: By:

☐ Sample(s) processed "as is".

Comments:

☐ Sample(s) on hold until: If released, notify:

Sample Control Supervisor Review: Rithel Date: 1/7/00

Project Management Review: Jennifer Smith Date: 1-7-00

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 12/12/98

000021

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 1/06/00
Time: 11:25:09
User Id.: SMITHJE

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: D&D
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B00-013
AMOUNT REC"D: 60MLG
STORAGE LOC: T8F
LOT COMMENTS: Hanford Summary and FEAD EDD required
MATRIX: SOLID
SAMPLE ID: B0XB60
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 33811
LAB ID: F-0A060175-001
WORK ORDER: D7557
RECEIVING DATE: 1/05/00
SAMPLING DATE: 1/05/00
ANALYTICAL DUE DATE: 1/24/00N
REPORT DUE DATE: 1/26/00
PRIORITY: 19
SAMPLING TIME: 8:41
RECEIVING TIME: 11:15
SDG# : W03005

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/03/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D7557 Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	2/02/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D7557 Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A060175-001-D
PROJECT #: D&D WORK ORDER: D7557 MSD
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/05/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/05/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60MLG REPORT DUE DATE: 1/26/00
STORAGE LOC: T8F PRIORITY: 19
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:41
MATRIX: SOLID RECEIVING TIME: 11:15
SAMPLE ID: B0XB60
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/03/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D7557 Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	2/02/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D7557 Protocol: A QC Program: STANDARD TEST SET				

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 1/06/00
Time: 11:25:09
User Id.: SMITHJE

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: D&D
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B00-013
AMOUNT REC"D: 60MLG
STORAGE LOC: T8F
LOT COMMENTS: Hanford Summary and FEAD EDD required
MATRIX: SOLID
SAMPLE ID: B0XB60
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 33811
LAB ID: F-0A060175-001-S
WORK ORDER: D7557 MS
RECEIVING DATE: 1/05/00
SAMPLING DATE: 1/05/00
ANALYTICAL DUE DATE: 1/24/00N
REPORT DUE DATE: 1/26/00
PRIORITY: 19
SAMPLING TIME: 8:41
RECEIVING TIME: 11:15
SDG# : W03005

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/03/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D7557 Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	2/02/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D7557 Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A060175-002
PROJECT #: D&D WORK ORDER: D755C
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/05/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/05/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60MLG REPORT DUE DATE: 1/26/00
STORAGE LOC: T8F PRIORITY: 19
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:48
MATRIX: SOLID RECEIVING TIME: 11:15
SAMPLE ID: B0XB61
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/03/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D755C Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	2/02/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D755C Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A060175-003
PROJECT #: D&D WORK ORDER: D755D
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/05/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/05/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60MLG REPORT DUE DATE: 1/26/00
STORAGE LOC: T8F PRIORITY: 19
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:00
MATRIX: SOLID RECEIVING TIME: 11:15
SAMPLE ID: B0XB62
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/03/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D755D Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	2/02/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D755D Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A060175-004
PROJECT #: D&D WORK ORDER: D755H
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/05/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/05/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60MLG REPORT DUE DATE: 1/26/00
STORAGE LOC: T8F PRIORITY: 19
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:11
MATRIX: SOLID RECEIVING TIME: 11:15
SAMPLE ID: B0XB63
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/03/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D755H Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	2/02/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D755H Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A060175-005
PROJECT #: D&D WORK ORDER: D755L
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/05/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/05/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60MLG REPORT DUE DATE: 1/26/00
STORAGE LOC: T8F PRIORITY: 19
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:22
MATRIX: SOLID RECEIVING TIME: 11:15
SAMPLE ID: B0XB64
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/03/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D755L Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	2/02/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D755L Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A060175-006
PROJECT #: D&D WORK ORDER: D755W
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/05/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/05/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60MLG REPORT DUE DATE: 1/26/00
STORAGE LOC: T8F PRIORITY: 19
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:37
MATRIX: SOLID RECEIVING TIME: 11:15
SAMPLE ID: B0XB65
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/03/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D755W Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	2/02/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D755W Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A060175-007
PROJECT #: D&D WORK ORDER: D7560
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/05/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/05/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60MLG REPORT DUE DATE: 1/26/00
STORAGE LOC: T8F PRIORITY: 19
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:47
MATRIX: SOLID RECEIVING TIME: 11:15
SAMPLE ID: B0XB66
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/03/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D7560 Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	2/02/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D7560 Protocol: A QC Program: STANDARD TEST SET				

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 1/06/00
Time: 11:25:09
User Id.: SMITHJE

:LIENT: 127642 BECHTEL HANFORD, INC.
?ROJECT MANAGER: MARTI WARD
?ROJECT #: D&D
?EPORT TO: Bechtel Hanford, Inc.
?.O. NUMBER: MRC-SBB-A-19981
3ITE: B00-013
AMOUNT REC"D: 60MLG
3TORAGE LOC: T8F
:OT COMMENTS: Hanford Summary and FEAD EDD required
MATRIX: SOLID
3AMPLE ID: B0XBH5
)C PACKAGE: Special Report - see checklist
3AMPLE COMMENTS:

QUOTE/SAR #: 33811
LAB ID: F-0A060175-008
WORK ORDER: D7563
RECEIVING DATE: 1/05/00
SAMPLING DATE: 1/03/00
ANALYTICAL DUE DATE: 1/24/00N
REPORT DUE DATE: 1/26/00
PRIORITY: 19
SAMPLING TIME: 12:30
RECEIVING TIME: 11:15
SDG# : W03005

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/01/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D7563 Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	1/31/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D7563 Protocol: A QC Program: STANDARD TEST SET				

QUANTERRA INCORPORATED
CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 1/06/00
Time: 11:25:09
User Id.: SMITHJE

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: D&D
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B00-013
AMOUNT REC"D: 60MLG
STORAGE LOC: T8F
LOT COMMENTS: Hanford Summary and FEAD EDD required
MATRIX: SOLID
SAMPLE ID: B0XBH6
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:

QUOTE/SAR #: 33811
LAB ID: F-0A060175-009
WORK ORDER: D7565
RECEIVING DATE: 1/05/00
SAMPLING DATE: 1/03/00
ANALYTICAL DUE DATE: 1/24/00N
REPORT DUE DATE: 1/26/00
PRIORITY: 19
SAMPLING TIME: 12:41
RECEIVING TIME: 11:15
SDG# : W03005

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/01/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D7565 Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	1/31/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D7565 Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A060175-010
PROJECT #: D&D WORK ORDER: D7567
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/05/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/03/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60MLG REPORT DUE DATE: 1/26/00
STORAGE LOC: T8F PRIORITY: 19
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 12:53
MATRIX: SOLID RECEIVING TIME: 11:15
SAMPLE ID: B0XBH7
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/01/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D7567 Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	1/31/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D7567 Protocol: A QC Program: STANDARD TEST SET				

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A060175-011
PROJECT #: D&D WORK ORDER: D756A
REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/05/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/03/00
SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N
AMOUNT REC"D: 60MLG REPORT DUE DATE: 1/26/00
STORAGE LOC: T8F PRIORITY: 19
LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 12:53
MATRIX: SOLID RECEIVING TIME: 11:15
SAMPLE ID: B0XBH8
QC PACKAGE: Special Report - see checklist SDG# : W03005
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	1/06/00	0/00/00	7/01/00
METALS, TOTAL - Soils				
MT6010_S PB				
(A-46-QM-01) D756A Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	1/06/00	0/00/00	1/31/00
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) D756A Protocol: A QC Program: STANDARD TEST SET				

Y1 cc: Bill Jerney

ERC Radiological Counting Facility Analysis Report

RCF Number RCF6973 **Sample Date & Time** 1/3/00 1230

Project ID: 105-F **SAF Number:** B00-013 **Date Analyzed** 1/4/00 3:22:22

Sample ID: B0XBF9

Gamma Energy Analysis

Nuclide		Activity (pCi/g)	Error (pCi/g)	MDC (pCi/g)
K-40	<	1.2E+02		1.2E+02
Co-60	<	2.0E+01		2.0E+01
Cs-137	<	2.2E+01		2.2E+01
Eu-152	<	5.7E+01		5.7E+01
Eu-154	<	4.3E+01		4.3E+01
Eu-155	<	8.6E+01		8.6E+01
Th-232D	<	5.5E+01		5.5E+01
Th-234	<	2.6E+02		2.6E+02
U-235	<	1.7E+02		1.7E+02
U-238D	<	2.6E+01		2.6E+01
U-238	<	3.3E+03		3.3E+03
Am-241	<	4.6E+01	results	4.6E+01

B0XBH5
B0XBH6
B0XBH7
B0XBH8

for samples 008 → 011

FOA060175

Total GEA (pCi/g) +/-

	Activity (pCi/g)		Error (pCi/g)
Gross Alpha**	7.8E-01	+/-	6.5E-01
Gross Beta	1.1E+01	+/-	1.3E+00

Alpha MDC (pCi/g) 4.5E-01

Beta MDC (pCi/g) 6.2E+00

Definitions:

All errors reported at 2 standard deviations.
N/R = no result or analysis not requested. <MDC = Less than detection limit.
All GEA results reported as "<" list the Minimum Detectable Concentration (MDC) value for that radionuclide.
Rounding error may result in the reported total GEA activity differing from the sum of the > MDC GEA values in the second significant digit.

For soils and natural samples, the following applies:

The analysis of U-238 is based on the activity of Pa-234m.
The analysis of Np-237 is based on the activity of Pa-233.
U-238dau is the activity of Pb-214 and Bi-214, short lived daughter products of U-238. Equilibrium between parent and daughter products probably does not exist in disturbed materials.
Th-232dau is the activity of Ac-228, Pb-212, and Tl-208, short lived daughter products of Th-232. Equilibrium between parent and daughter products may not exist in disturbed materials.
Other samples, not containing natural materials, may have inapplicable results for the Th, U, transuranics and daughter products. The results must then be balanced for the gross alpha analysis.
**The gross alpha results are not corrected for mass absorbtion
No peaks for this radionuclide were visible above background in the spectrum. The result was reported as less than MDC.

Analyst Ted Snider 1/4/00

Report To Fax

000035

Report Printed: Tuesday, January 04, 2000

ERC Radiological Counting Facility Analysis Report

RCF Number RCF6959 1/1 cc: Bill Jerry Sample Date & Time 12/29/99 0952

Project ID: 105-F SAF Number: B00-013 Date Analyzed 12/30/99 9:08:

Sample ID: B0XBF6

Gamma Energy Analysis

Nuclide		Activity (pCi/g)		Error (pCi/g)	MDC (pCi/g)
K-40	<	1.7E+02			1.7E+02
Co-60	<	1.8E+01			1.8E+01
Cs-137	<	1.8E+01			1.8E+01
Eu-152	<	4.7E+01			4.7E+01
Eu-154	<	4.8E+01			4.8E+01
Eu-155	<	8.0E+01			8.0E+01
Th-232D	<	4.7E+01			4.7E+01
U-235	<	1.6E+02			1.6E+02
U-238	<	3.3E+03			3.3E+03
U-238D		9.4E+01	+/-	4.3E+01	4.9E+01
Am-241	<	4.7E+01			4.7E+01

BOX 60 61 62 → BOX 65 BOX 66 63 64

results for samples 001 → 007 FOA0G175

Total GEA (pCi/g)	9.4E+01	+/-	4.3E+01

	Activity (pCi/g)		Error (pCi/g)
Gross Alpha**	7.6E-01	+/-	6.0E-01
Gross Beta	1.0E+01	+/-	1.2E+00

Alpha MDC (pCi/g)
4.3E-01
Beta MDC (pCi/g)
5.6E+00

Definitions:

All errors reported at 2 standard deviations.
N/R = no result or analysis not requested. <MDC = Less than detection limit.
All GEA results reported as "<" list the Minimum Detectable Concentration (MDC) value for that radionuclide.
Rounding error may result in the reported total GEA activity differing from the sum of the > MDC GEA values in the second significant digit.

For soils and natural samples, the following applies:

The analysis of U-238 is based on the activity of Pa-234m.
The analysis of Np-237 is based on the activity of Pa-233.
U-238dau is the activity of Pb-214 and Bi-214, short lived daughter products of U-238. Equilibrium between parent and daughter products probably does not exist in disturbed materials.
Th-232dau is the activity of Ac-228, Pb-212, and Tl-208, short lived daughter products of Th-232. Equilibrium between parent and daughter products may not exist in disturbed materials.
Other samples, not containing natural materials, may have inapplicable results for the Th, U, transuranics and daughter products. The results must then be balanced for the gross alpha analysis.
**The gross alpha results are not corrected for mass absorbtion
No peaks for this radionuclide were visible above background in the spectrum. The result was reported as less than MDC.

Analyst T. J. Smith 12/30/99

Report To D. St John Fax 372-9487

Report Printed: Thursday, December 30, 1999

4-21058 CWC 020513

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-013-103	Page 1 of 1

Collector Fahlberg	**Company Contact** J Adler	**Telephone No.** 373-4316	**Project Coordinator** TRENT, SJ
Project Designation 105-F/DR Phase III Below-grade Areas Sampling and Analy	**Sampling Location** 105 F Solids Feed		**SAF No.** B00-013
Ice Chest No. EIC-96-065	**Field Logbook No.** EL 1424	**COA** R105F2280C	**Method of Shipment**
Shipped To Quanterra Incorporated	**Offsite Property No.** 100 F fuel		**Bill of Lading/Air Bill No.**

Price Code 9L **Data Turnaround** 21 Days

Air Quality ☐

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

SDG W03005

SAMPLE ANALYSIS Due 1-26 JOA050173

Preservation	Cool 4C	↓ None	None
Type of Container	aG	aG	aG
No. of Container(s)	1	1	1
Volume	60mL	60mL	120mL

Sample No.	Matrix *	Sample Date	Sample Time	7196_CR6: Hexavalent Chromium (1)	ICP Metals - 6010A (Supertrace) (Lead); Mercury - 7471 - (CV)	See item (1) in Special Instructions.							
B0XB60	Other Solid	1-5-00	0841	X	X	X	D73	RO					
B0XB61	OTHER SOLID	1-5-00	0848	X	X	X	D73	RE					
B0XB62	OTHER SOLID	1-5-00	0900	X	X	X	D73	RR					
B0XB63	OTHER SOLID	1-5-00	0911	X	X	X	D73	T4					
B0XB64	OTHER SOLID	1-5-00	0922	X	X	X	D73	T5					

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
R.F. Fahlberg / R.F. Fahlberg	1-5-00 1115	K. Ashtenberg	1-5-00 1115
K. Ashtenberg	1-5-00 1600	[illegible]	1-6-00 830

SPECIAL INSTRUCTIONS

(1) Gamma Spectroscopy (Cobalt-60); Gamma Spec - Add-on (Barium-133); Isotopic Plutonium; Strontium-89,90 – Total Sr; Technetium-99; Americium-241; Nickel-63; Carbon-14

TIED TO RAD SAMPLE B0FB6

Matrix *

S=Soil
SE=Sediment
SO=Solid
S=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

0033

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B00-013-108	Page 1 of 1
Collector Fahlberg	Company Contact J Adler	Telephone No. 373-4316	Project Coordinator TRENT, SJ	Price Code 9L Air Quality ☐
Project Designation 105-F/DR Phase III Below-grade Areas Sampling and Analy	Sampling Location 105 F Solids Feed		SAF No. B00-013	Data Turnaround 21 Days
Ice Chest No. ERL-96-065	Field Logbook No. EL 1424	COA R10SF2280C	Method of Shipment	
Shipped To Quanterra Incorporated	Offsite Property No.		Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage	Preservation	Cool 4C	None	None							
	Type of Container	aG	aG	aG							
	No. of Container(s)	1	1	1							
	Volume	60mL	60mL	120mL							

SAMPLE ANALYSIS				7196_CR6: Hexavalent Chromium (1)	ICP Metals - 6010A (Supertrace) (Lead); Mercury - 7471 - (CV)	See item (1) in Special Instructions.						
Sample No.	Matrix *	Sample Date	Sample Time									
B0XB65	Other Solid	1-5-00	0937	X	X	X	D73	TB				
B0XB66	OTHER SOLID	1-5-00	0947	X	X	X	D73	TC				

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time 1115	Received By K. Achtenberg	Date/Time 1115 1-5-00
Relinquished By R. Fahlberg / R. Fahlberg	Date/Time 1600 1-5-00	Received By	Date/Time 1-6-00 CAM 830
Relinquished By K. Achtenberg	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

(1) Gamma Spectroscopy (Cobalt-60); Gamma Spec - Add-on (Barium-133); Isotopic Plutonium; Strontium-89,90 -- Total Sr; Technetium-99; Americium-241; Nickel-63; Carbon-14

TIED TO RAD SCREEN BOXBFC

Matrix *
S=Soil
SE=Sediment
SO=Solid
S=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-013-146	Page 1 of 1
Collector: Fahlberg	Company Contact: J Adler; Telephone No.: 373-4316	Project Coordinator: TRENT, SJ	Price Code 9L; Data Turnaround 21 Days
Project Designation: 105-F/DR Phase III Below-grade Areas Sampling and Analy	Sampling Location: 105F	SAF No.: B00-013	Air Quality ☐
Ice Chest No.: ERC 94 010	Field Logbook No.: EL 1424; COA: R105F2280C	Method of Shipment: Gov. vehicle	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None (100% full)	None									
Type of Container	aG	aG									
No. of Container(s)	1	1									
Volume	60mL	120mL									
SAMPLE ANALYSIS	ICP Metals - 6010A (Supertrace) {Lead}; Mercury - 7471 - (CV)	See item (1) in Special Instructions.									

Sample No.	Matrix *	Sample Date	Sample Time										
B0XBH5 (8)	Other Solid	1-3-00	12:30	X	X	D73	TD					B0XBF9	
B0XBH6	OTHER Solid	1-3-00	12:48	X	X	D73	TJ					B0XBF9	
B0XBH7	OTHER Solid	1-3-00	12:53	X	X	D73	TL					B0XBF9	
B0XBH8	OTHER Solid	1-3-00	12:53	X	X	D73	TM					B0XBF9	

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By: R. Fahlberg / R. Fahlberg	1-3-00 1420	Received By: R. Fahlberg	1-3-00 1450
Relinquished By: R. Fahlberg	1-5-00/0900	Received By: R. Thoren / RA Thoren	1-5-00/0900
Relinquished By: RA. Thoren / R. Thoren	1-5-00 /1100	Received By: K. Achtenberg	1-5-00 1100
Relinquished By: K. Achtenberg	1-5-00 1600	Received By: [illegible signature]	1-6-00 830
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

(1) Gamma Spectroscopy {Cobalt-60}; Gamma Spec - Add-on {Barium-133}; Isotopic Plutonium; Strontium-89,90 – Total Sr; Technetium-99; Americium-241; Nickel-63; Carbon-14

Matrix *: S=Soil, SE=Sediment, SO=Solid, S=Sludge, W=Water, O=Oil, A=Air, DS=Drum Solids, DL=Drum Liquids, T=Tissue, WI=Wipe, L=Liquid, V=Vegetation, X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

000039

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 01-05-00 1115 SG#: W03005

Work Order Number: J0A050173 SAF #: B00-013

Shipping Container ID: ER9605 Chain of Custody # B00-013-103+108

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 4°C
5. Vermiculite/packing materials is KW 1st Wet [ ] Dry [✓]
6. Number of samples in shipping container: 4 21
7. Sample holding times exceeded? Yes [ ] No [ ]

8. Samples have:
   - ✓ tape
   - ✓ custody seals
   - ____ hazard labels
   - ____ appropriate sample labels

9. Samples are:
   - ✓ in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: K. DeHerding Date: 01-05-00

Telephoned To: _____ On ✓ By _____

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 01-05-00 1100 SG#: W03005

Work Order Number: J0A050173 SAF #: B00-013 / B99-605

Shipping Container ID: ER9910 Chain of Custody # B00-013-146

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 4 °C
5. Vermiculite/packing materials is Wet [ ] Dry [✓]
6. Number of samples in shipping container: 11
7. Sample holding times exceeded? Yes [ ] No [✓]

8. Samples have:
   - [✓] tape
   - [✓] custody seals
   - [ ] hazard labels
   - [ ] appropriate sample labels

9. Samples are:
   - [✓] in good condition
   - [ ] broken
   - [ ] leaking
   - [ ] have air bubbles

10. Where any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: K. Robertson Date: 01-05-00

Telephoned To: _____ On _____ By _____

Quanterra
Environmental Services

020573

Login No.: F0A060175
WO3005

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: Richland

Date: 1-6-00 Time: 830

Project No:

Initiated by: [signature]

Shipper/No: Airborne 4012585010

RFA/COC Numbers: B00-013-103, 108 & 114

Condition/Variance (Check all that apply):

1. ☐ Sample received broken/leaking.
2. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: _____
   - ☐ pH _____
   - ☐ other: _____
3. ☐ Sample received in improper container.
4. ☐ Sample received without proper paperwork. Explain: _____
5. ☐ Paperwork received without sample.
6. ☐ No sample ID on sample container.
7. ☐ Custody tape disturbed/broken/missing.
8. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
9. ☐ All coolers on airbill not received with shipment.
10. ☐ Other (explain below): _____

☑ **No variances were noted during sample receipt.** **Cooler Temperature Upon Receipt:** 2°

Temperature Variance Does Not Affect the Following Analyses: _____

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is".

Comments: _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) [signature] Date: 1-6-00

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

SL-ADMIN-0004, Revised 12/12/98

000042

BECHTEL HANFORD, INC.

Client Sample ID: B0XB67

TOTAL Metals

Lot-Sample #...: F0A070135-001 Matrix.....: SOLID
Date Sampled...: 01/06/00 Date Received..: 01/06/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027167						
Chromium	61.1	1.0	mg/kg	SW846 6010B	01/27/00	D76G1109
		Dilution Factor: 1		MDL.....: 0.30		
Lead	11.5	0.30	mg/kg	SW846 6010B	01/27/00	D76G1101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.050	0.033	mg/kg	SW846 7471A	02/04/00	D76G1204
		Dilution Factor: 1		MDL.....: 0.0070		

000043
DA

BECHTEL HANFORD, INC.

Client Sample ID: B0XB68

TOTAL Metals

Lot-Sample #...: F0A070135-002 Matrix.....: SOLID
Date Sampled...: 01/06/00 Date Received..: 01/06/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027167						
Chromium	407	1.0	mg/kg	SW846 6010B	01/27/00	D76GJ103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	11.7	0.30	mg/kg	SW846 6010B	01/27/00	D76GJ101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.11	0.033	mg/kg	SW846 7471A	02/04/00	D76GJ202
		Dilution Factor: 1		MDL.....: 0.0070		

000044
DA

BECHTEL HANFORD, INC.

Client Sample ID: B0XB69

TOTAL Metals

Lot-Sample #...: F0A070135-003 Matrix.....: SOLID
Date Sampled...: 01/06/00 Date Received..: 01/06/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027167						
Chromium	122	1.0	mg/kg	SW846 6010B	01/27/00	D76GL103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	8.5	0.30	mg/kg	SW846 6010B	01/27/00	D76GL101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.041	0.033	mg/kg	SW846 7471A	02/04/00	D76GL202
		Dilution Factor: 1		MDL.....: 0.0070		

000045
Da

BECHTEL HANFORD, INC.

Client Sample ID: B0XB70

TOTAL Metals

Lot-Sample #...: F0A070135-004 Matrix.....: SOLID
Date Sampled...: 01/06/00 Date Received..: 01/06/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027167						
Chromium	167	1.0	mg/kg	SW846 6010B	01/27/00	D76GP103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	9.2	0.30	mg/kg	SW846 6010B	01/27/00	D76GP101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.13	0.033	mg/kg	SW846 7471A	02/04/00	D76GP202
		Dilution Factor: 1		MDL.....: 0.0070		

000046
DA

BECHTEL HANFORD, INC.

Client Sample ID: B0XB71

TOTAL Metals

Lot-Sample #...: F0A070135-005 Matrix.....: SOLID
Date Sampled...: 01/06/00 Date Received..: 01/06/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027167						
Chromium	102	1.0	mg/kg	SW846 6010B	01/27/00	D76GQ103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	6.6	0.30	mg/kg	SW846 6010B	01/27/00	D76GQ101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.079	0.033	mg/kg	SW846 7471A	02/04/00	D76GQ202
		Dilution Factor: 1		MDL.....: 0.0070		

000047
DA

BECHTEL HANFORD, INC.

Client Sample ID: B0XB72

TOTAL Metals

Lot-Sample #...: F0A070135-006 Matrix.....: SOLID
Date Sampled...: 01/06/00 Date Received..: 01/06/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027167						
Chromium	39.9	1.0	mg/kg	SW846 6010B	01/27/00	D76GR103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	11.5	0.30	mg/kg	SW846 6010B	01/27/00	D76GR101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.11	0.033	mg/kg	SW846 7471A	02/04/00	D76GR202
		Dilution Factor: 1		MDL.....: 0.0070		

000048
DA

BECHTEL HANFORD, INC.

Client Sample ID: B0XB73

TOTAL Metals

Lot-Sample #...: F0A070135-007 Matrix.....: SOLID
Date Sampled...: 01/06/00 Date Received..: 01/06/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027167						
Chromium	**32.6**	**1.0**	**mg/kg**	**SW846 6010B**	**01/27/00**	**D76GT103**
		Dilution Factor: 1		MDL.....: 0.30		
Lead	**7.6**	**0.30**	**mg/kg**	**SW846 6010B**	**01/27/00**	**D76GT101**
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	**0.54**	**0.033**	**mg/kg**	**SW846 7471A**	**02/04/00**	**D76GT202**
		Dilution Factor: 1		MDL.....: 0.0070		

000049
DA

BECHTEL HANFORD, INC.

Client Sample ID: B0XB60

TOTAL Metals

Lot-Sample #...: F0A060175-001 Matrix.....: SOLID
Date Sampled...: 01/05/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	527	1.0	mg/kg	SW846 6010B	01/27/00	D7557109
		Dilution Factor: 1		MDL.....: 0.30		
Lead	6.2	0.30	mg/kg	SW846 6010B	01/27/00	D7557101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.084	0.033	mg/kg	SW846 7471A	02/04/00	D7557204
		Dilution Factor: 1		MDL.....: 0.0070		

000054
Da

BECHTEL HANFORD, INC.

Client Sample ID: B0XB61

TOTAL Metals

Lot-Sample #...: F0A060175-002 Matrix.....: SOLID
Date Sampled...: 01/05/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	**28.7**	**1.0**	**mg/kg**	**SW846 6010B**	**01/27/00**	**D755C103**
		Dilution Factor: 1		MDL.....: 0.30		
Lead	**6.4**	**0.30**	**mg/kg**	**SW846 6010B**	**01/27/00**	**D755C101**
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	**0.078**	**0.033**	**mg/kg**	**SW846 7471A**	**02/04/00**	**D755C202**
		Dilution Factor: 1		MDL.....: 0.0070		

BECHTEL HANFORD, INC.

Client Sample ID: B0XB62

TOTAL Metals

Lot-Sample #...: F0A060175-003 Matrix.....: SOLID
Date Sampled...: 01/05/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	32.4	1.0	mg/kg	SW846 6010B	01/27/00	D755D103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	8.8	0.30	mg/kg	SW846 6010B	01/27/00	D755D101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.073	0.033	mg/kg	SW846 7471A	02/04/00	D755D202
		Dilution Factor: 1		MDL.....: 0.0070		

000056
Da

BECHTEL HANFORD, INC.

Client Sample ID: B0XB63

TOTAL Metals

Lot-Sample #...: F0A060175-004 Matrix.....: SOLID
Date Sampled...: 01/05/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	**23.8**	**1.0**	**mg/kg**	**SW846 6010B**	**01/27/00**	**D755H103**
		Dilution Factor: 1		MDL.....: 0.30		
Lead	**12.0**	**0.30**	**mg/kg**	**SW846 6010B**	**01/27/00**	**D755H101**
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	**0.13**	**0.033**	**mg/kg**	**SW846 7471A**	**02/04/00**	**D755H202**
		Dilution Factor: 1		MDL.....: 0.0070		

BECHTEL HANFORD, INC.

Client Sample ID: B0XB64

TOTAL Metals

Lot-Sample #...: F0A060175-005 Matrix.....: SOLID
Date Sampled...: 01/05/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	20.4	1.0	mg/kg	SW846 6010B	01/27/00	D755L103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	2.8	0.30	mg/kg	SW846 6010B	01/27/00	D755L101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.26	0.033	mg/kg	SW846 7471A	02/04/00	D755L202
		Dilution Factor: 1		MDL.....: 0.0070		

000058
DA

BECHTEL HANFORD, INC.

Client Sample ID: B0XB65

TOTAL Metals

Lot-Sample #...: F0A060175-006 Matrix.....: SOLID
Date Sampled...: 01/05/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	13.7	1.0	mg/kg	SW846 6010B	01/27/00	D755W103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	11.6	0.30	mg/kg	SW846 6010B	01/27/00	D755W101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.076	0.033	mg/kg	SW846 7471A	02/04/00	D755W202
		Dilution Factor: 1		MDL.....: 0.0070		

000059
DA

BECHTEL HANFORD, INC.

Client Sample ID: B0XB66

TOTAL Metals

Lot-Sample #...: F0A060175-007 Matrix.....: SOLID
Date Sampled...: 01/05/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	28.8	1.0	mg/kg	SW846 6010B	01/27/00	D7560103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	5.8	0.30	mg/kg	SW846 6010B	01/27/00	D7560101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.38	0.033	mg/kg	SW846 7471A	02/04/00	D7560202
		Dilution Factor: 1		MDL.....: 0.0070		

000060
DA

BECHTEL HANFORD, INC.

Client Sample ID: B0XBH5

TOTAL Metals

Lot-Sample #...: F0A060175-008 Matrix.....: SOLID
Date Sampled...: 01/03/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	**16.1**	**1.0**	**mg/kg**	**SW846 6010B**	**01/27/00**	**D7563103**
		Dilution Factor: 1		MDL.....: 0.30		
Lead	**27.2**	**0.30**	**mg/kg**	**SW846 6010B**	**01/27/00**	**D7563101**
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	**0.83**	**0.033**	**mg/kg**	**SW846 7471A**	**02/04/00**	**D7563202**
		Dilution Factor: 1		MDL.....: 0.0070		

000061
Da

BECHTEL HANFORD, INC.

Client Sample ID: B0XBH6

TOTAL Metals

Lot-Sample #...: F0A060175-009 Matrix.....: SOLID
Date Sampled...: 01/03/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	13.9	1.0	mg/kg	SW846 6010B	01/27/00	D7565103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	36.0	0.30	mg/kg	SW846 6010B	01/27/00	D7565101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.38	0.033	mg/kg	SW846 7471A	02/04/00	D7565202
		Dilution Factor: 1		MDL.....: 0.0070		

000062
DA

BECHTEL HANFORD, INC.

Client Sample ID: B0XBH7

TOTAL Metals

Lot-Sample #...: F0A060175-010 Matrix.....: SOLID
Date Sampled...: 01/03/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	16.1	1.0	mg/kg	SW846 6010B	01/27/00	D7567103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	9.1	0.30	mg/kg	SW846 6010B	01/27/00	D7567101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.18	0.033	mg/kg	SW846 7471A	02/04/00	D7567202
		Dilution Factor: 1		MDL.....: 0.0070		

BECHTEL HANFORD, INC.

Client Sample ID: B0XBH8

TOTAL Metals

Lot-Sample #...: F0A060175-011 Matrix.....: SOLID
Date Sampled...: 01/03/00 Date Received..: 01/05/00
% Moisture.....:

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0027162						
Chromium	18.0	1.0	mg/kg	SW846 6010B	01/27/00	D756A103
		Dilution Factor: 1		MDL.....: 0.30		
Lead	9.8	0.30	mg/kg	SW846 6010B	01/27/00	D756A101
		Dilution Factor: 1		MDL.....: 0.15		
Prep Batch #...: 0036128						
Mercury	0.31	0.033	mg/kg	SW846 7471A	02/04/00	D756A202
		Dilution Factor: 1		MDL.....: 0.0070		

000064
Da